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For: MULTI-FUNCTIONAL POWER SUPPLY FOR A HALL THRUSTER

ABSTRACT OF DISCLOSURE

5 A multi-functional power supply system for a Hall thruster including a thruster assembly for providing a plasma discharge and a cathode assembly for providing electrons. The cathode assembly includes an emitter, a keeper with a current limiting device, and a heater. A magnetic field source is operatively associated with the cathode assembly for generating a magnetic field to control the discharge. A plasma discharge circuit creates a plasma and accelerates the plasma to produce thrust. A power supply is connected to the keeper and the plasma discharge circuit and is connected to the heater through a switching device responsive to a predetermined condition for interrupting the power to the heater and simultaneously enabling the power supply to deliver power to the keeper and the plasma discharge circuit to initiate production of thrust.

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